

Prevalence and Co-Occurrence of Internalizing and Externalizing Depression Symptoms in a Community Sample of Australian Male Truck Drivers

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Abstract

Trucking industry employees are known to be at risk of elevated levels of stress and a range of behaviors that may compromise their mental health. Clinical reports indicate that in response to negative emotional states, men tend to engage in a cluster of externalizing behaviors including irritability, anger and aggression, risk taking, and substance misuse. However, as such symptoms fall outside standard diagnostic depression criteria, the diagnosis and treatment of depression in men may be impeded. The present exploratory study reports retrospective symptom ratings of internalizing and externalizing depression symptoms from 91 Australian male truck drivers. Moderate correlation between externalizing and internalizing symptoms was reported across the sample, though internalizing symptoms were reported more frequently. However, consistent with prediction, those meeting probable depression caseness ($n = 20$) reported three times the number of externalizing symptoms relative to those in the nonclinical group (Cohen's $d = 1.31$). Externalizing symptoms may be a particular phenotypic feature of depression in men, and assessment of such symptoms may assist in the detection of those unwilling to disclose typical internalizing symptoms (i.e., sadness, hopelessness). Results also highlight the need for targeted research into stress-related and mental health outcomes of men in high health risk occupations such as truck driving.

Keywords

men, depression, masculinity, externalizing symptoms, help seeking

Background and Research Question

Relative to the general population, truck drivers are a vulnerable group as evidenced by a range of poorer health outcomes (Ng, Yousuf, Bigelow, & Van Eerd, 2015). Truck drivers have a tendency to experience work overload, substantial periods of isolation, less access to health care services, sleep deprivation, a sedentary lifestyle, unfavorable working conditions, and exposure to occupational stressors that place their mental health at risk (da Silva-Júnior, de Pinho, de Mello, de Bruin, & de Bruin, 2009; Mackie & Moore, 2009). The trucking industry work environment is characterized by a masculine culture, emphasizing stoicism, independence, and emotional control (Shattell, Apostolopoulos, Sonmez, & Griffin, 2010). Men adhering to such masculine norms have been theorized to express symptoms of low mood or distress through a cluster of atypical (i.e., externalizing) behaviors symptomatic of

male-type depression (Rutz, 1995; Rutz & Rihmer, 2009) including anger, risk taking, and alcohol misuse (Genuchi, 2015; Rice, Fallon, Aucote, & Möller-Leimkühler, 2013; Zierau, Bille, Rutz, & Bech, 2002). Such symptoms fall outside standard diagnostic criteria, thus preventing diagnosis and treatment (Brownhill, Wilhelm, Barclay, & Schmied,

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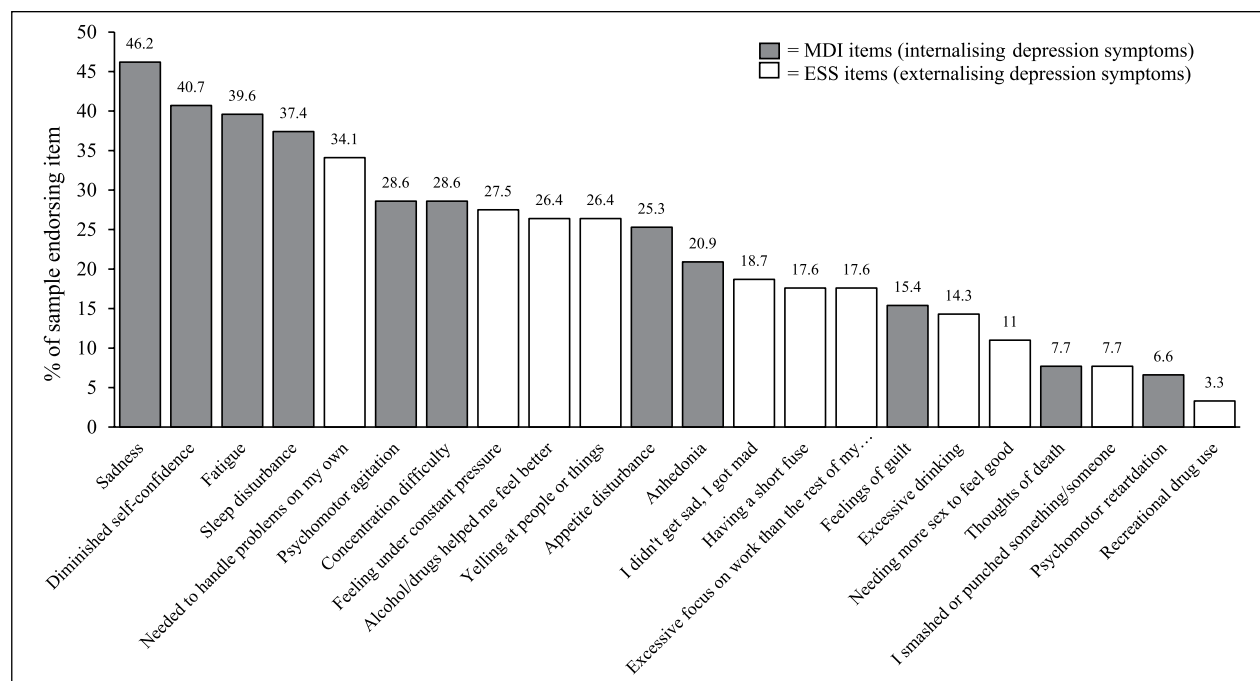


Figure 1. Frequency ratings (in descending order) for the MDI and ESS items ($N = 91$).

Note. MDI = Major Depression Inventory; ESS = Externalizing Symptoms Scale.

2005; Heifner, 1997; Martin, Neighbors, & Griffith, 2013; Rochlen et al., 2010), yet have been associated with suicide attempts in men (Verona, Sachs-Ericsson, & Joiner, 2004). The present exploratory study was designed to evaluate whether externalizing and internalizing depression symptoms co-occur in male truck drivers, and whether externalizing symptoms are a prominent phenotypic feature for those likely to have symptoms consistent with a major depression diagnosis. It was hypothesized that internalizing symptoms (i.e., sadness, hopelessness) would be endorsed less frequently than masculine-congruent externalizing symptoms (i.e., anger, substance use). It was further predicted that those men meeting possible caseness for *Diagnostic and statistical manual of mental disorders—Fifth edition*, major depression would endorse a greater number of externalizing symptoms than those men in the nonclinical range.

Design and Data Collection

The study utilized a cross-sectional, self-report questionnaire undertaken with a convenience sample of 91 male truck drivers. Data were collected prior to an early morning shift, at a multinational transport company depot in Melbourne, as part of a broader employer-sponsored health check for diabetes and sleep apnea. All participants were male. As the participating transport company mandated the use of a brief assessment tool, demographic information had to be omitted and Likert-type scale

response formats had to be condensed to a categorical “yes/no” format. Data for four variables were collected: (a) age ($M = 40.17$, $SD = 12.98$ years); (b) the presence of a romantic relationship (61.5% in a current relationship); (c) internalizing depression symptoms using the 11-item Major Depression Inventory (MDI; Bech, Rasmussen, Olsen, Noerholm, & Abildgaard, 2001, e.g., *Have you lost interest in your daily activities?*); and (d) externalizing depression symptoms using the 11-item Externalizing Symptoms Scale (Magovcevic & Addis, 2008, e.g., *I didn't get sad, I got mad*). Participants were instructed to respond to items retrospectively, relative to the last time they were *really down in the dumps*.

Findings

The MDI and Externalizing Symptoms Scale demonstrated satisfactory internal consistency (Kuder–Richardson-20 coefficients = .71, .72, respectively). Total scores for externalizing and internalizing depression were moderately correlated (Spearman's rho = .60, degrees of freedom = 89, $p < .001$). Contrary to prediction, mean frequency ratings indicated that internalizing symptoms ($M = 2.97$, $SD = 2.59$) were *more* likely to be endorsed than externalizing symptoms ($M = 2.04$, $SD = 2.19$), $t(90) = 4.15$, $p < .001$, $d = 0.39$. Nonetheless, across the sample relatively high symptom co-occurrence was observed for externalizing and internalizing symptoms (see Figure 1). A total of 20 (21.97%) participants met possible clinical

caseness (i.e., ≥ 5 MDI items endorsed, including anhedonia or depressed mood, as per diagnostic criteria for major depression; American Psychiatric Association, 2013). As predicted, those meeting caseness reported significantly higher mean frequency ratings for externalizing symptoms ($M = 4.20$, $SD = 2.17$) relative to those in the normal range ($M = 1.43$, $SD = 1.63$), $t(89) = 6.19$, $p < .001$, Cohen's $d = 1.31$ (finding verified through a Mann–Whitney U test, $p < .001$). Neither age ($p = .943$) or romantic partnership ($p = .802$) were significant covariates.

Recommendations and Limitations

Contrary to prediction, the present sample of men from a masculine work environment (i.e., trucking) were willing to retrospectively endorse internalizing depression symptoms more frequently than externalizing symptoms. Of note, however, the strength of the relationship between externalizing and internalizing symptoms in the present sample was noticeably stronger than that reported for men from the general population (Magovcevic & Addis, 2008), yet was consistent with that reported for men with alcohol dependence (Zierau et al., 2002). The relatively large proportion of shared variance between these symptom clusters provides some support for the putative externalizing phenotypic subtype of male depression (Rutz, 1995). In particular, the degree of internalizing and externalizing symptom co-occurrence for those in the clinical group is consistent with the growing body of research highlighting patterns of risk taking, aggression, and substance use in men experiencing depression (Genuchi, 2015; Martin et al., 2013).

These present study was limited by a lack of demographic data and poor characterization of the sample. Furthermore, the binary response format of the outcome measures prevented analysis of symptom severity (i.e., dimensionality), and bias in symptom recall accuracy may have occurred. Future research should address these limitations and replicate the present preliminary findings. Structured diagnostic interviews embedded within longitudinal designs should examine internalizing–externalizing symptom trajectories in addition to men's barriers to help seeking for depression (Rice, Aucote, Parker, et al., 2017; Rice, Fallon, et al., 2015).

In summary, findings suggest that externalizing symptoms may be a particular phenotypic feature of depression in men. Given externalizing symptoms are known suicide risk factors (Verona et al., 2004) and are likely to impede men's help seeking and adaptive functioning (Rice, Aucote, Möller-Leimkühler, & Amminger, 2017), greater clinical attention toward screening externalizing symptoms may be indicated.

Declaration of Conflicting Interests

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